

New Hampshire
Department of Environmental Services

AQUATIC RESOURCE MITIGATION FUND

Winnepesaukee River Watershed
Site Selection Committee Recommendations
July 2010

INTRODUCTION

The New Hampshire Department of Environmental Services (DES) Aquatic Resource Mitigation (ARM) Fund was established by law in August, 2006 as a mitigation option for certain projects not able to provide other forms of mitigation. The ARM Fund Site Selection Committee (Committee) was set up to provide a mechanism for reviewing, evaluating, and selecting wetland restoration, upland preservation, wetland creation, and other aquatic resource improvement proposals. According to the law, the projects determined to be appropriate for receipt of ARM Fund monies are subject to approval by the US Army Corps of Engineers (ACE) and the NH Wetlands Council (Council).

The Committee is charged with identifying proposals to be funded by selecting high priority projects that most effectively compensate for the loss of functions and values in the watershed. The Council is charged with approving disbursements of the ARM Fund based on recommendations provided by the Committee per RSA 482-A:29.

DES announced the availability of \$153,000 with a deadline for proposal submittal of April 30, 2010 for the watershed. The funds came from two permitted projects located in the towns of Tilton and Moultonborough (See Attachment A). These permitted projects impacted the following functions: wildlife habitat, floodflow alteration, and sediment/toxicant retention. Five applications were received in response to the solicitation and are summarized below.

A. Project Proponent: Society for the Protection of New Hampshire Forests
Project Title: Birch Ridge Project, New Durham

The Forest Society proposes to purchase a conservation easement on 1,860 acres of land above the south shore of Merrymeeting Lake. The project will protect 552 acres of 300' upland buffer around the wetlands and over 2 miles of stream frontage on both banks of five perennial streams. This will expand the permanently protected portion of the 7,000 acre forest block in which the property is located, which itself lies in a 53,000 acre aggregated forest block as identified in the New Hampshire Fish & Game Wildlife Action Plan (WAP). In addition, 287 acres of land are mapped as Tier 1, 311 acres of Tier 2, and 1,118 acres of Tier 3 WAP habitats.

The project includes six parcels which drain into both the Winnepesaukee River watershed and the Salmon Falls River watershed. There exist a total of 18 wetland restoration sites associated with perennial or intermittent streams that drain into Coldrain Pond or Merrymeeting Lake with the total amount of restoration of approximately 12,500 sq.ft. Eleven of the restoration sites are within the Winnepesaukee River watershed. The preservation parcels are located within the Laconia Water Works source water

protection area and contain roughly 15 acres of a gravel aquifer with high transmissivity estimated up to 1,000 sq.ft. per day. An inventory performed by an experienced botanist has noted exemplary natural communities located within the parcel. The project provides a link within a 7,000 acre forested block, bordered by NHF&G lands and the Woodward Conservation Easement, ultimately protecting holdings on the Merrymeeting River and on Coldrain Pond.

This project will complete the 100% protection of Coldrain Pond. Moose Mountains Regional Greenways identified Coldrain Pond as a conservation priority. The project falls within area studied by the NH Coastal Program's Coastal Conservation Plan. The 1,860 acres includes approximately 125 acres of wetlands and 31 vernal pools resulting in the protection of 11% of the entire Merrymeeting Lake watershed, including over 1,600 acres of erodible soils. The Forest Society is applying for ARM funds from this watershed account and the Salmon Falls watershed account.

Grant amount requested:	\$153,000
Amount of matching funds proposed:	\$242,000
Total project costs:	\$850,000

B. Project Proponent: Town of Belmont, Stoney Ridge Environmental
Project Title: Tioga River Wildlife & Conservation Area

The goal of the project is to, as nearly as possible eradicate the current infestation of Glossy Buckthorn on the Tioga River Wildlife and Conservation Area. The Town owned parcel is 188 acres in size with a significant portion of the Tioga River flowing through the parcel near the confluence with the Winnepesaukee River.

The most significant threat of the invasion is to Wetland #18, one of the highest ranking wetlands in Belmont. A conservation easement for permanent protection of the property is being worked on by the Conservation Commission with Five Rivers Conservation Trust. The two year project proposes removal of buckthorn in the first year and planting native scrub-shrub wetland mix. In the second year, they propose to return to remove remnant sprouts. After the second year, the Conservation Commission will monitor the site annually and remove any sprouts that have persisted.

The entire site is underlain by a significant stratified drift aquifer that supplies drinking water to Belmont, Northfield, and Tilton. The property contains WAP Highest Ranked Wildlife Habitat by Ecological Condition. The site is in close vicinity to documented locations of bald eagle and wood turtle.

Grant amount requested:	\$31,060.00
Amount of matching funds proposed:	\$4,600.00
Total project costs:	\$35,660.00

C. Project Proponent: Town of Alton Highway Department/Stoney Ridge Environmental
Project Title: Coffin Brook Road Floodplain Connectivity Improvement Project

Coffin Brook Road is approximately 2.4 miles long and crosses a huge expanse of wetlands as it travels from Route 140 southeast to Stockbridge Corner Road and Route 28. The existing bridge is 24 feet wide by 8 feet in height. The Coffin Brook Wetland Complex is vast and measures approximately 76 acres.

The Town of Alton proposes installation of 10 floodplain culverts to improve aquatic passage and improve safety. Currently, in storm events the road floods causing vehicle passage problems. Coffin Brook fragments approximately 500 linear feet of the larger Coffin Brook wetland complex on the northwestern side of the bridge. Installation of a series of floodplain culverts in a specific area of the floodplain will

restore hydrologic connectivity of the floodplain and prevent flooding into the road surface by allowing flow during storm events. Installation of 10 45" wide by 29" high elliptical culverts will greatly improve passage in the floodplain. The site has potential for Blanding's turtles.

Grant amount requested:	\$105,967.12
Amount of matching funds proposed:	\$35,707.00
Total project costs:	\$141,674.12

D. Project Proponent: NH Lakes – Conservation Corp Program

Project Title: Lake Waukegan, Meredith

NH LAKES is proposing to implement its Lake Conservation Corps (LCC) Program in the Lake Waukegan Watershed on 10 properties over a three-year period to reduce the amount of non-point source pollution that flows into the lake from the watershed. Their work will include implementing nonpoint source pollution control measures on properties located within the Shoreland Protection Zone. The amount of phosphorus loading to the lake from the watershed will be reduced which will help reduce the amount of cyanobacteria blooms and oxygen depletion in Lake Waukegan. Lake Waukegan is the public drinking water supply for the Town of Meredith.

Grant amount requested:	\$77,392
Amount of matching funds secured:	\$18,048
Total project costs:	\$95,439

E. Project Proponent: Belknap County Conservation District

Project Title: A Watershed Approach to Sedimentation and Soil Erosion on Gunstock Brook

Gunstock Brook accounts for the majority of the land area of the Sanders Bay subwatershed in the Winnepesaukee River watershed. The watershed has a long history of erosion and flooding issues. Three sites are addressed in the proposal submitted by the Belknap County Conservation District. This area has been identified in the Lake Winnepesaukee Watershed Management Plan as requiring restoration.

The goal of this project is to address soil erosion, sedimentation, and impaired wildlife/aquatic habitat at selected sites within the Gunstock Brook watershed. The immediate action plan is to stabilize the upper reaches of the brook, including an area of severe stream bank erosion adjacent to a NHDOT bridge to significantly reduce sediment loadings to Gunstock Brook. Multiple agencies are being consulted for assistance.

The majority of the requested ARM funds focus on the middle section of the watershed with the upper and lower sections potentially funded through the Natural Resource Conservation Service Farm Bill Program. The restoration work is proposed on the Wright Property and involves a 26' x 7' culvert that through storm events, has scoured a 40' hole which extends upstream 100' and is in need of stabilization. Removal of an island of material in front of the culvert is needed as well as rip rap at the abutment is proposed.

Grant amount requested:	\$83,100.00
Amount of matching funds proposed:	\$174,200.00
Total project costs:	\$257,300.00

RESULTS OF ARM FUND SITE SELECTION COMMITTEE REVIEW

The Committee and Department visited the sites and on June 16 the Committee convened to evaluate and rank the applications with the findings noted below. Location maps of the parcels are included in Attachment B.

1st. Birch Ridge Project, New Durham

- A. The project provides the most similar functions to what was lost in the watershed through the projects that generated the funds.
- B. The applicant has submitted this proposal with a request for funds from the Salmon Falls-Piscataqua River watershed as the parcel is located in both watersheds. The Committee cannot comment on the merits of the proposal in the other watershed as the application deadline and review has not been completed.
- C. The protection of this parcel will expand the permanently protected portion of a 7,000 acre forest block which lies in a 53,000 acre aggregated forest block, both identified in the NH WAP.
- D. The parcel is zoned commercial and is in a highly desirable location for potential development with easy access to major roadways. The conservation easement will protect 11% of the entire Merrymeeting Lake watershed.
- E. The parcel was proposed for a 220-unit subdivision that has been submitted to the New Durham Planning Board.
- F. The site has over two miles of frontage on both banks of five perennial streams and is directly above the shoreline of the Merrymeeting Lake which is a cold water fishery, stocked with trout, and is part of the Atlantic Salmon Restoration program with annual salmon stocking.
- G. As noted in the application, the budget includes items needed to fund conservation and restoration efforts with the understanding that future funding will be needed to accomplish the overall project goals.
- H. The conservation easement will limit use of the property to forestry, agriculture, non-commercial outdoor recreation/education, and habitat improvement practices.
- I. Wetland restoration opportunities within the Salmon Falls watershed will be evaluated as part of the Salmon Falls funding round and ranked along with all other applications submitted during that funding round.

2nd. Tioga River Wildlife & Conservation Area, Belmont

- A. The current infestation of Glossy Buckthorn on this previously disturbed parcel provides the threat of converting the site to a monoculture and begin to encroach on one of the highest ranking wetlands in Belmont.
- B. The invasive species is currently located on the edges of Wetland 18 which has been evaluated and determined to have the highest score for ecological integrity. Invasions by glossy buckthorn have been shown to cause reductions in plant diversity and alteration of natural communities.
- C. Eradication of the Glossy Buckthorn from the uplands will increase the likelihood of keeping the functions of the extensive high functioning wetlands on the parcel intact.
- D. The project is located on a town-owned parcel that is under consideration for permanent protection through a conservation easement to be held by the Five Rivers Conservation Trust.
- E. The funding requires the Town to complete the easement transaction to insure long-term protection and monitoring of the efforts to control the invasive Glossy Buckthorn. Monitoring information provided to the Committee will be useful for determining whether future requests for invasive species management is a valuable use of ARM funds.

3rd. Coffin Brook Floodplain Connectivity Improvement Project, Alton

- A. The project proposes to restore floodplain continuity, improve aquatic passage and wildlife habitat, encourage natural cycling of nutrient attenuation and sediment toxicant retention, stabilize and maintain the stream bank and will serve to increase public safety.
- B. Approximately 400 linear feet of the road in this portion of the crossing floods during storm events involving 2" or more of rain with 2 to nearly 3 feet of water causing the town to periodically shut the road down.
- C. The existing bridge of Coffin Brook is adequately sized however, adequate planning and design did not accommodate the floodplain.
- D. The town has completed a hydraulic analysis of the crossing location, has completed studies of the surrounding floodplain ecosystem and has considered alternative methods of accomplishing habitat improvement and safety goals.
- E. The project provides restoration of a large riverine floodplain that is in close proximity to existing conservation lands both in and downstream of the wetland. Future development in this area is limited due to the vast expanse of the scrub/shrub floodplain wetland system that is over 76 acres in size.

4th. Lake Waukegan, One Property at a Time, Meredith

- A. The project proposes water quality related improvements through construction of stormwater and water quality best management practices on 10 private properties located within the 250 foot shoreland zone to Lake Waukegan.
- B. The functions to be improved by this shoreland proposal are limited and are not very similar to what was lost in the watershed through the projects that generated the funds.
- C. The proposal is fairly limited in the area of proposed vegetated buffers and swales due to existing homes, roadway and shorefront structures.
- D. The project provides limited assurances that the improvements will be maintained by the various landowners over time.

5th. Gunstock Brook, Gilford

- A. The proposal to install rock riprap at the existing roadway crossing is limited in terms of replacing the functions lost from the projects that paid into the fund.
- B. Long-term protection measures along Gunstock Brook are not proposed which would serve to preserve the various stabilization and habitat improvement efforts.
- C. The project has potential to be funded by alternative sources such as DES s319 grant funds which may be a more appropriate funding source.

The Committee recommends partial funding of \$100,000.00 to the Forest Society for the Birch Ridge project in New Durham. The Committee noted that the selected project provides the greatest potential to replace or protect specific wetland functions and values lost by the impacts in the Winnepesaukee River watershed. The parcel has been under threat of development throughout the past years and it has the potential to connect existing conservation lands.

The Committee recommends partial funding of \$30,000.00 to the Town of Belmont for the Tioga Wildlife and Conservation project. The Committee noted the funds are contingent on the Town providing a conservation easement on the parcel for long-term protection. The Committee requests confirmation from the Town within 3 months from the Wetland Council approval that they can secure a permanent easement on the property. If the Town is unable to secure long-term protection of the parcel, the \$30,000.00 shall be provided to the Forest Society for completion of the Birch Ridge conservation/restoration project.

In addition, the Committee recommends partial funding of \$23,000 to the Town of Alton for the purchase of the 10 floodplain culverts as a portion of project costs. The Committee requests confirmation from the Town within 3 months from the Wetland Council approval that they can secure additional funding. If the Town is unable to secure additional funding to complete the project, the \$23,000.00 will also revert to the Birch Ridge project.

Any remaining funds shall remain in the watershed account and be applied to the next grant opportunity.

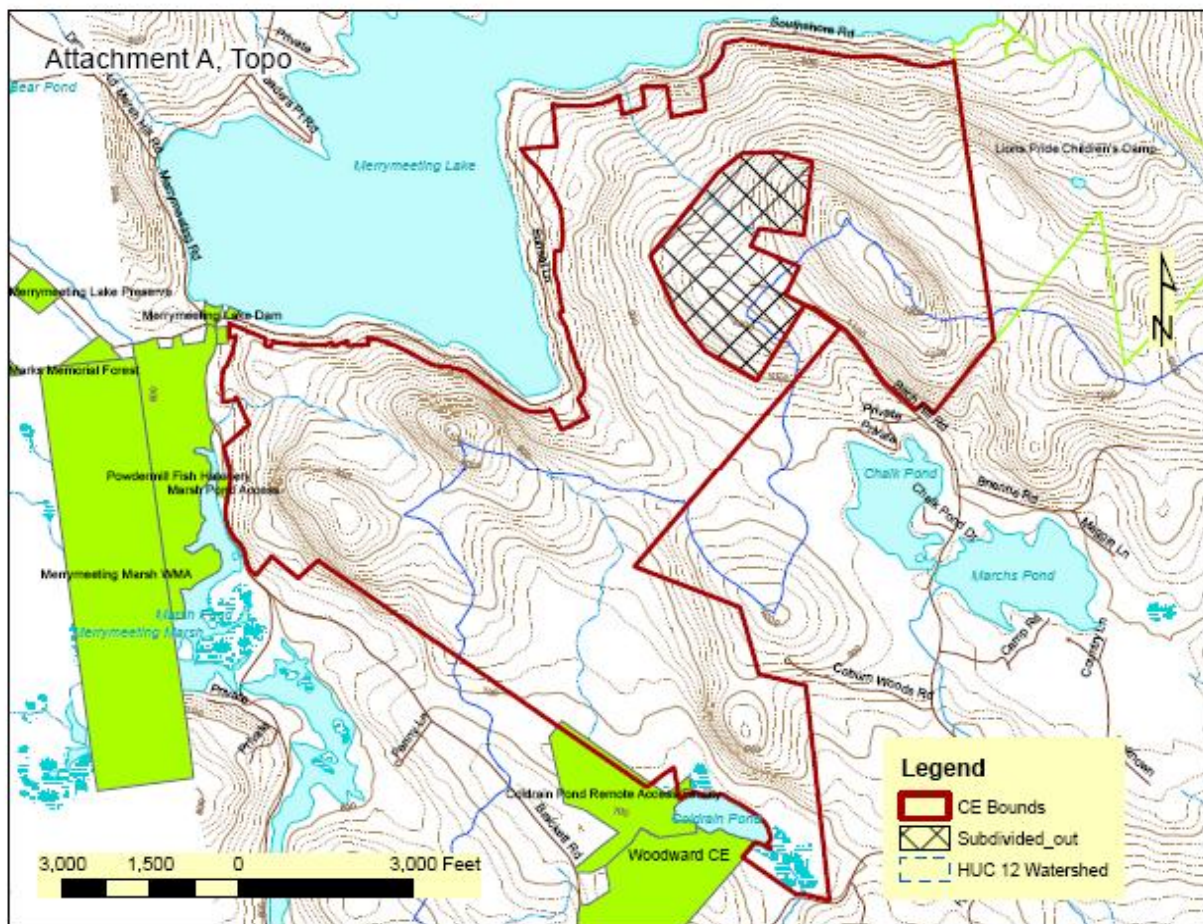
ATTACHMENT A.

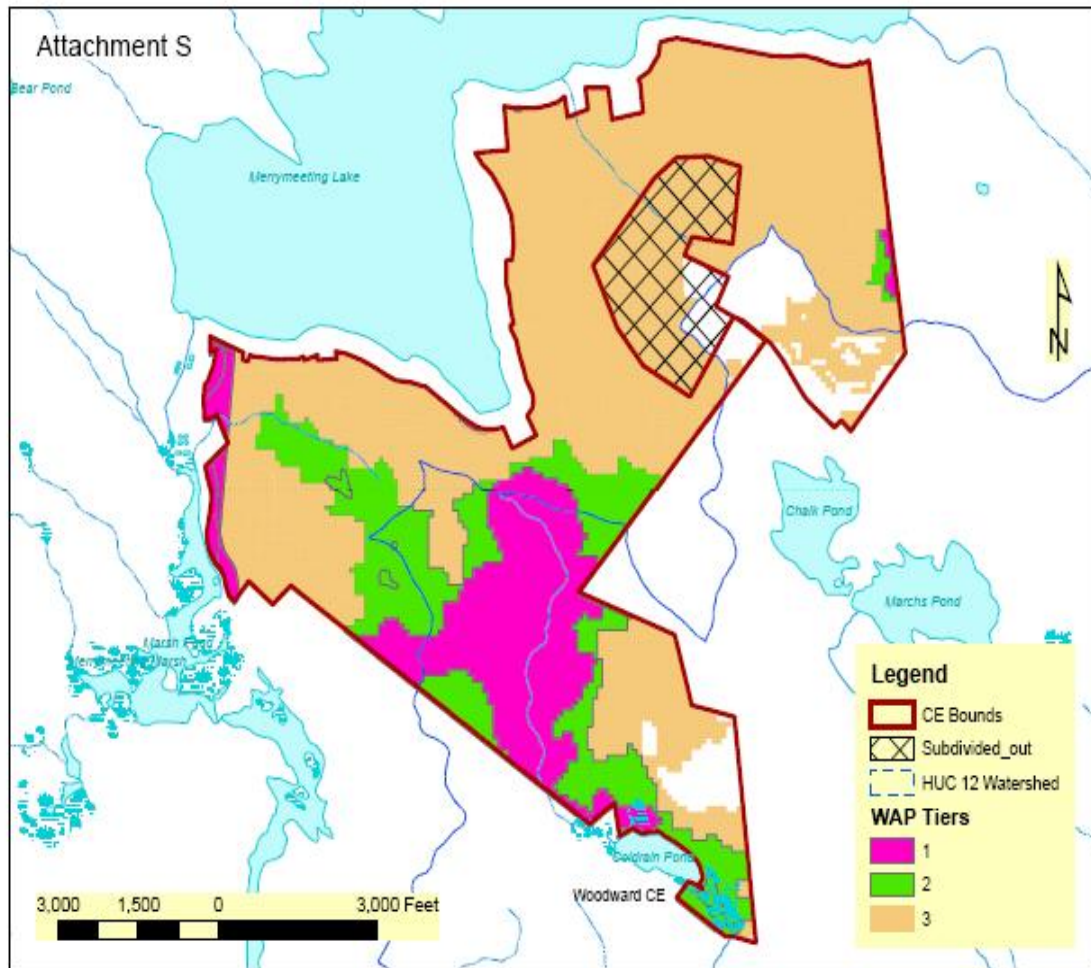
WINNIPESAUKEE RIVER WATERSHED ARM FUND PAYMENTS

PERMIT #	LOCATION	PROJECT TYPE	COWARDIN CLASS	PRIMARY F/V's	OTHER ISSUES	WETLAND LOSS	PAYMENT AMOUNT	DEPOSIT DATE
2005-3055	Tilton	Commercial development Audi dealer	PSS, PFO	Limited overall; some sed/tox retention	Disturbed site surrounded by development	25,850	85,108.00	8/30/2007
2006-2266	Moultonboro	8 Lot subdivision on 60 acres	PFO1Y, R3SBFb, PSS1E	Floodflow alteration, Wildlife Hab, sed/tox ret		21,485	76358.73	12/5/2007
TOTAL						47,335	161,466.73	

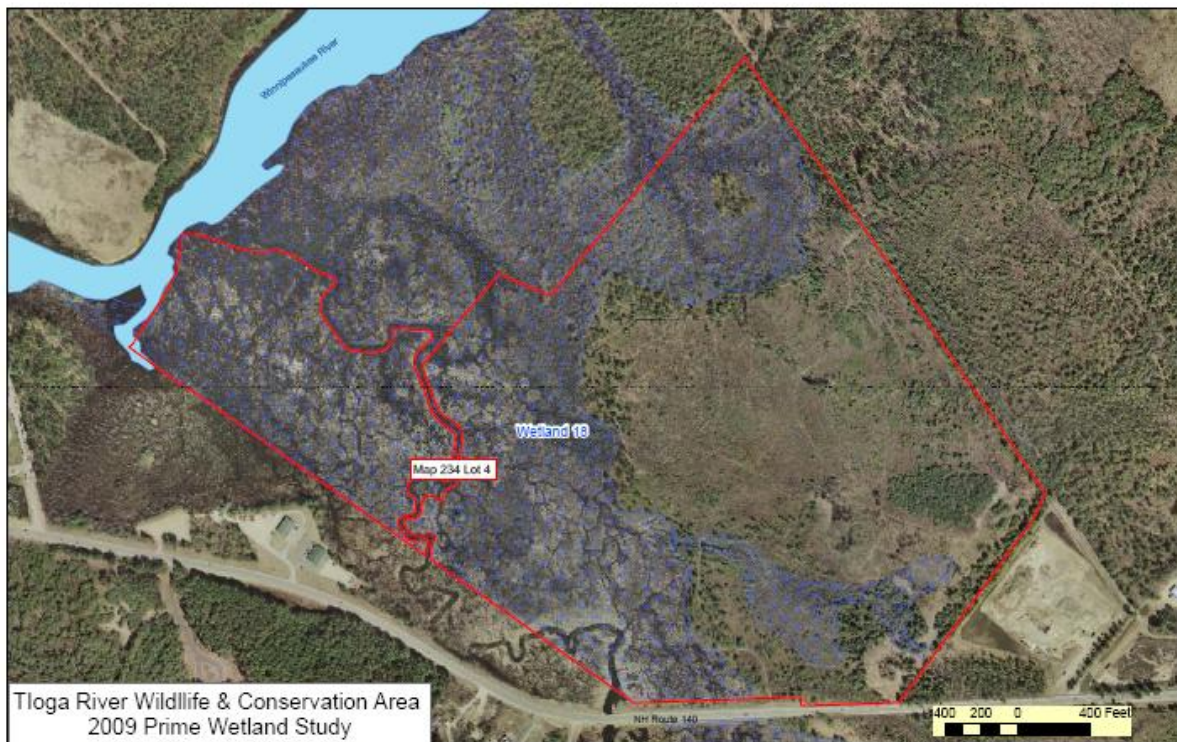
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BIRCH RIDGE PROJECT, NEW DURHAM



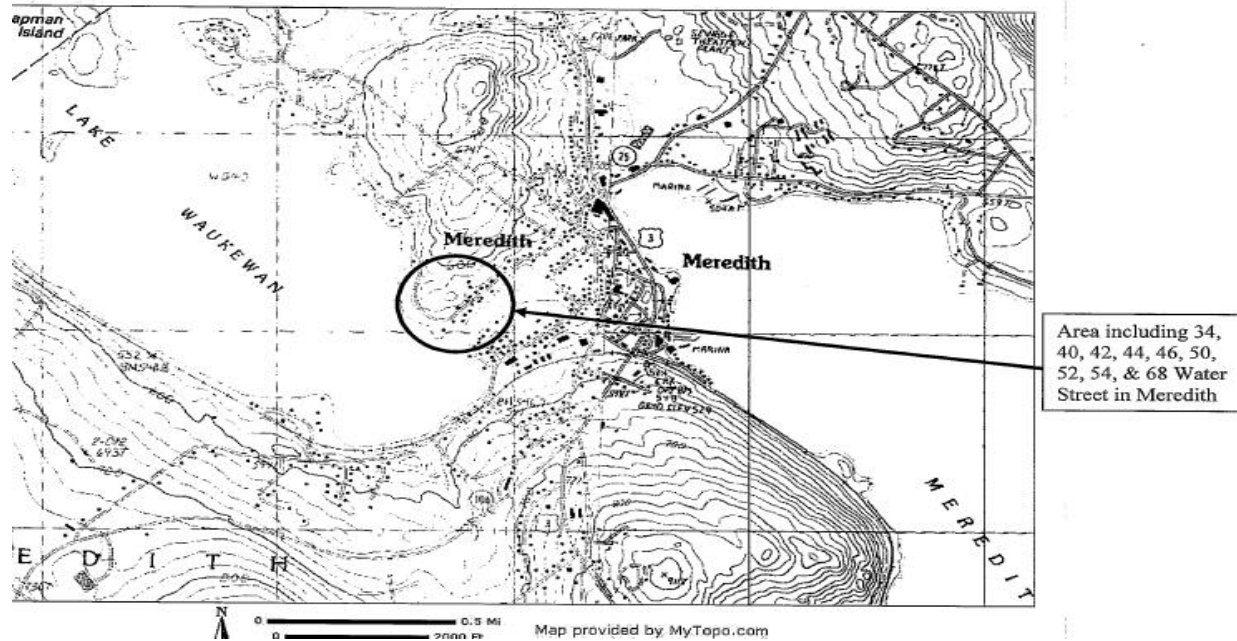


TIOGA RIVER WILDLIFE & CONSERVATION AREA, BELMONT



**COFFIN BROOK FLOODPLAIN CONNECTIVITY
IMPROVEMENT PROJECT, ALTON**



LAKE WAUKEWAN – One Property at a Time, MEREDITH**Gunstock Brook Watershed**